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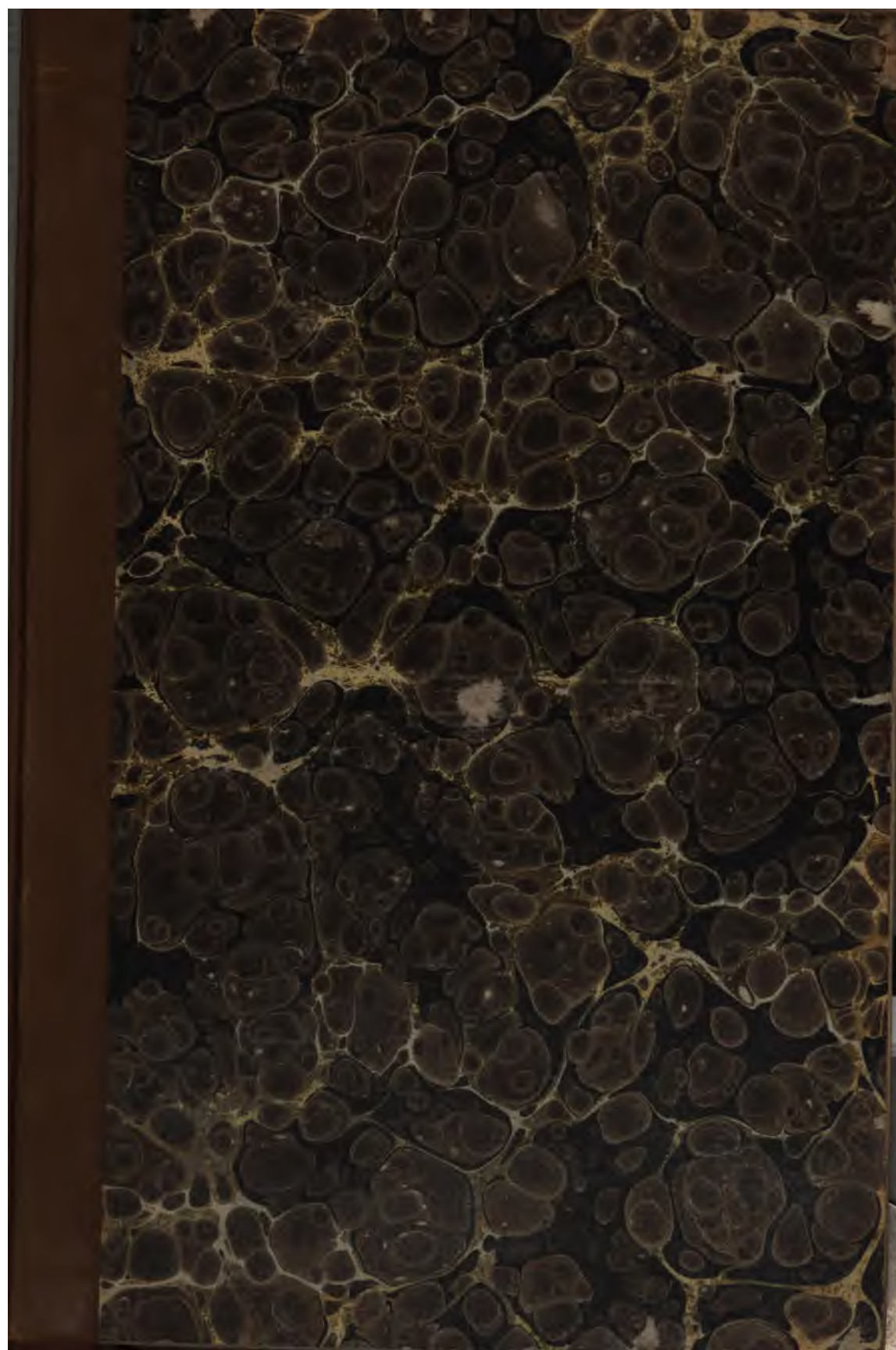
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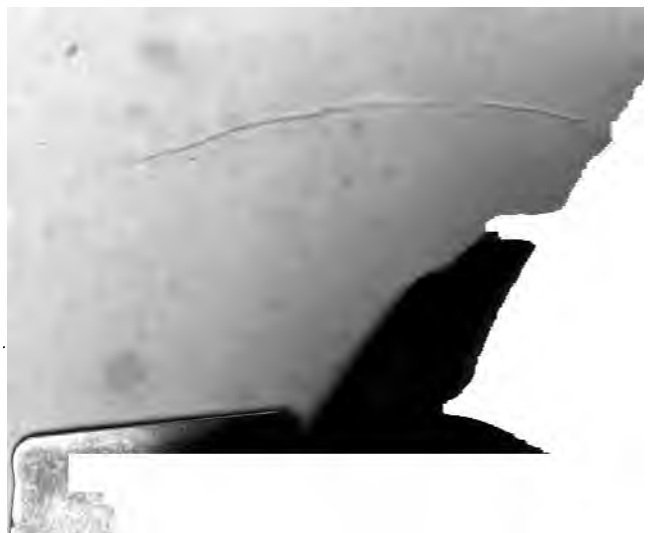
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47.425.



47.425.







# PRACTICAL RULES

FOR

DETERMINING THE COURSE TO BE STEERED

TO ESCAPE FROM

## A HURRICANE,

DEDUCED FROM

THE ROTATORY THEORY ESTABLISHED BY COLONEL REID.

BY



COMMANDER A. P. RYDER, R.N.



LONDON:

M. TAYLOR, 1, WELLINGTON STREET, STRAND.

1847.



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\* \* It may be a sufficient Advertisement to this Tract  
\* to state, that the Lords of the Admiralty place a copy of it  
on board every vessel of war in her Majesty's service.

## ROTATORY THEORY OF HURRICANES.

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THE Rotatory Theory affirms that a Hurricane instead of blowing in all its parts in the same or nearly the same direction, as gales of wind generally do, consists of a large circular whirlwind, which is at the same time blowing in different directions in different parts, and moving slowly onwards in its course. This course is the same, or nearly the same, for all Hurricanes in the same latitude or longitude; the velocity of the wind has been estimated in some cases to be 120 miles an hour, while the rate of progressive motion of the Hurricane has been found to range between 1 and 8 miles an hour.

The writer begs to state, that he is chiefly indebted to Col. Reid's work, called the "Law of Storms," for the information he possesses on that subject; he had also the advantage before sending this to the press of seeing Mr. Thoms' work on the same subject. He has taken the liberty of adding to his own diagrams, the depressions of the barometer (in tenths of inches) which the last mentioned gentleman has connected with the various distances from the vortex. He has also towards the close of this pamphlet, availed himself of some extracts from Mr. Thoms' work, which he has acknowledged by appending the letter T as a mark of distinction. His diagrams, although they resemble, very much in design those of the gentleman last mentioned, were sketched by the writer in 1843, after reading Col. Reid's book.

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## TABLES.

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Distinguishing } A The Course of Hurricanes is N. W. b. N. from } to } Lat. 30 N.  
letter.... } } } Long. 60 W., } } } Long. 72 W.

Distinguishing } C  
letter. . . . }

[illegible]

Distinguishing } D		The Course of Hurricanes is W. S. W. from										{ Lat. 10 S, } to { Lat. 18 S.		{ Long. 66 E.			
letter . . . . }		Long. 102 E., }										{ Long. 66 E.					
		S.S.E. to South.	South to S.S.W.	S.S.W. to S.W.	S.W. to W.S.W.	West. to W.N.W.	WNW. to N.W.	N.W. to N.N.W.	N.N.W. to North.	North to N.N.E.	N.N.E. to N.E.	N.E. to E.N.E.	E.N.E. to East.	East to E.S.E.	E.S.E. to S.E.	S.E. to S.S.E.	
If Wind is from	Segment ship will be in.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Course to steer.		N.W.	N.N.W.	N.N.W.	N.N.W.	N.N.W. North.	North N.E.	North N.E.	N.E. to East	N.E.	East to S.E.	East S.E.	S.E. to South.	South S.S.W.	S.S.W.	S.S.W.	W.N.W.
Tack to Lie-to on if obliged.		Must Lie-to.	Must not Lie-to.	S.	S.	S.	S.	S.	S.	L.	L.	L.	L.	L.	L.	Must not Lie-to.	Must not Lie-to.
Remarks.																	

Distinguishing } E letter.... }		The Course of Hurricanes is S. S. W. from { Lat. 18 S, } to { Lat. 27 S. Long. 66 E., } Long 58 E.														
If Wind is from	E.S.E. to S. E.	S. E. to S.S.E.	S. S. E. South	South to S S. W.	S. S. W. S W.	S. W. to W. S. W.	W. S. W. West	West to W. N. W.	W. N. W. N. W.	N. W. to N. N. W.	N. N. W. North.	North to N. N. E.	N. N. E. N. 3. N. E.	N. E. to E. N. E.	E. N. E. East.	East. to E. S. E.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Segment ship will be in.																
Course to steer.	West.	W. N. W.	W. N. W.	W. N. W.	W. N. W. to N. W.	N. W. to North.	N. W. North.	North to N. E	North to N. E	N. E. to East.	N. E. to East.	East to E. S. E.	E. S. E. S. E.	S. E.	S. E.	W. S. W.
Tack to Lie-to on if obliged.	Must not Lie-to.	Must not Lie-to.	S.	S.	S.	S.	S.	S.	L.	L.	L.	L.	L.	L.	Must not Lie-to.	Must not Lie-to.
Remarks.																

NOTE.—All courses given in this book are to be understood as *true*, the proper variation must therefore be applied to the direction of the wind before looking for it in the squares, and to the course given after taking it out of the squares.



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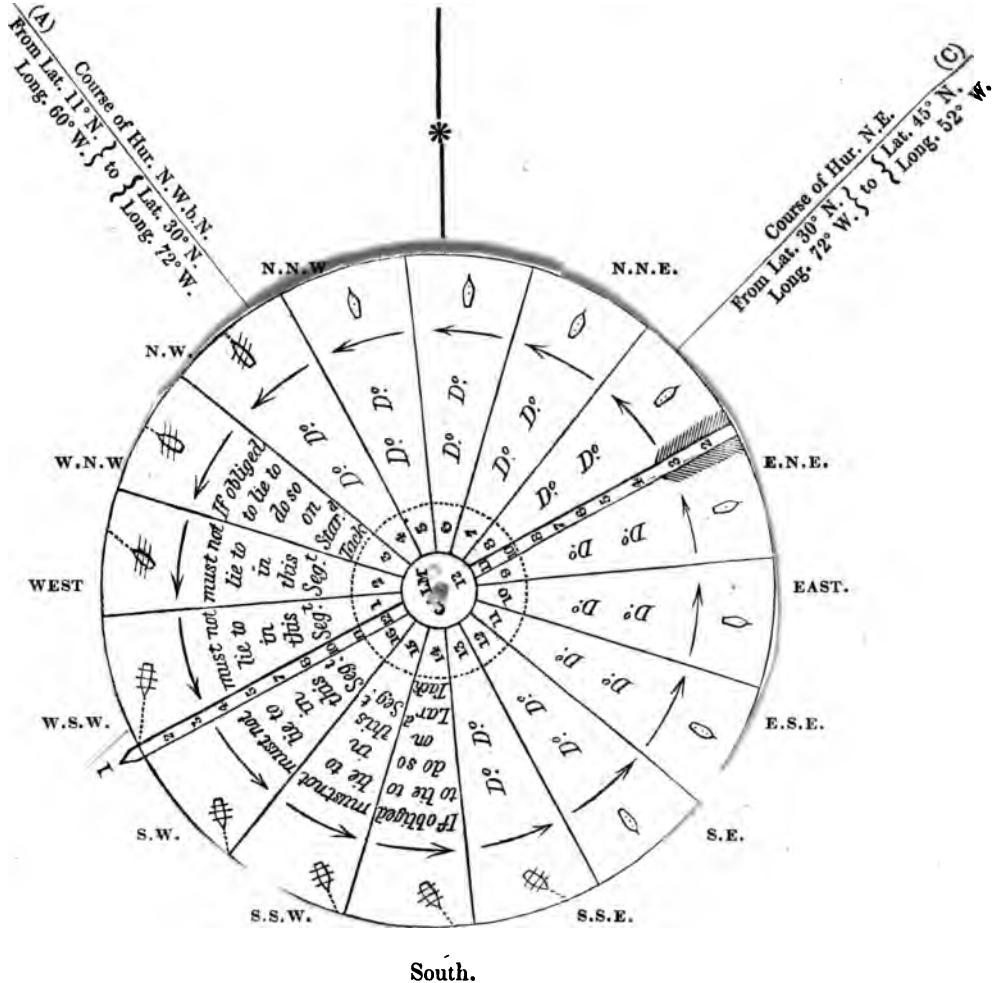
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**DIAGRAMS.**

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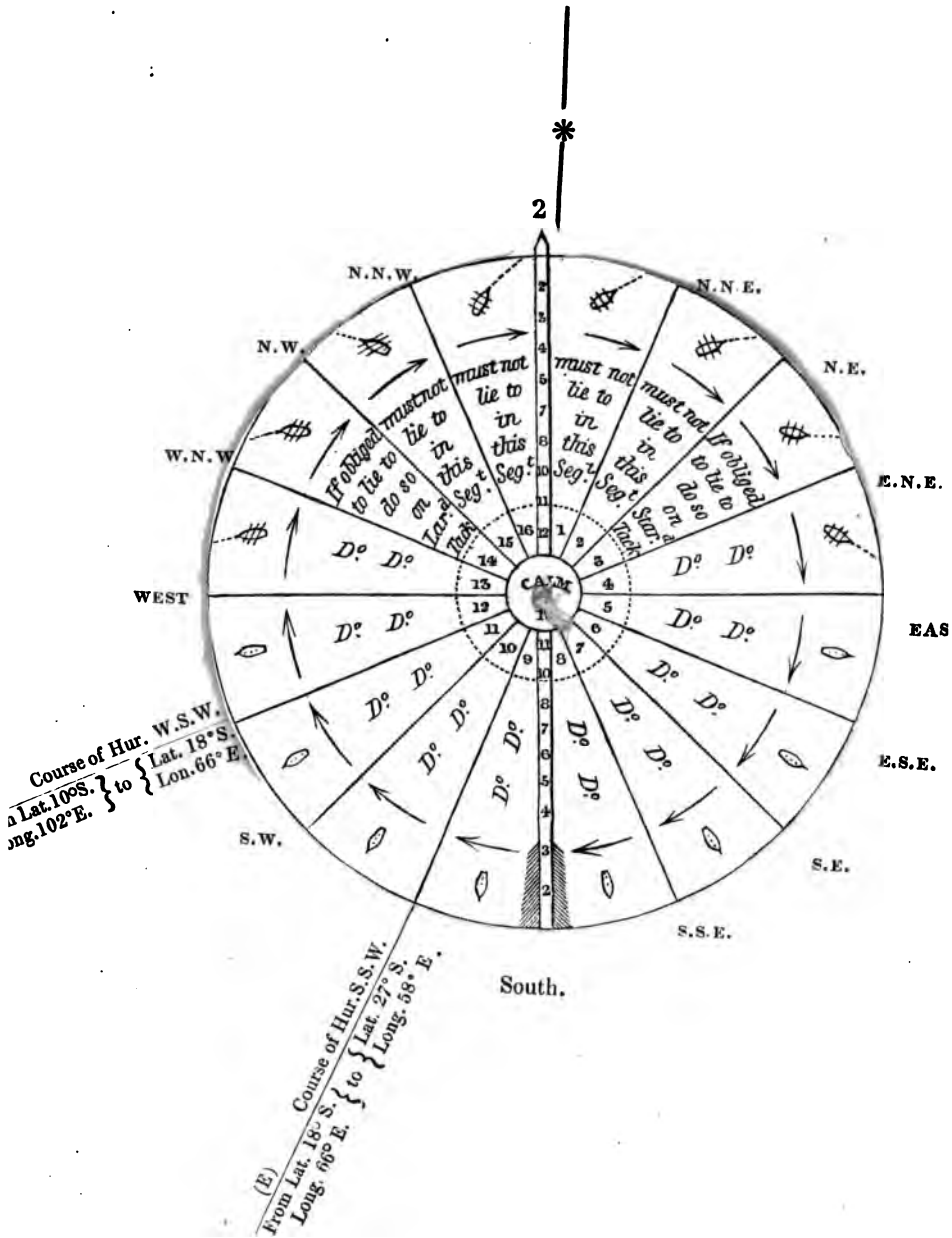
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## WEST INDIA HURRICANES.



1. The thin black lines represent the courses of the Hurricanes.
2. The long arrow through the centre of the circle is the projection of the course of the Hurricane.
3. The small ships have their heads turned in directions towards positions of greatest safety.
4. The small arrows are the directions of the wind (flying *with* it) in different parts of the Hurricane. It will be noticed that West India Hurricanes being North of the Equator revolve in an opposite direction to East India Hurricanes which are South of it.
5. The letter press in the segments are directions for lying to.
6. The numbers arranged round the centre are the numbers of the segments, and serve to connect the diagrams with the tables.
7. The numbers in the long arrows are the depressions in tenths of inches of the Barometer and are true (nearly) for all parts of the Hurricane at the same distance from the vortex.

# EAST INDIA HURRICANES.





## POSTSCRIPT.

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THE writer has been informed, at the Hydrographical Office, that hurricanes have been observed in the East Indies, *north* of the equator, as in the Bay of Bengal and the China sea, and that they *revolve* in a similar manner to those in the West Indies ; but he is not in possession, at present, of the necessary data (viz., the position and direction of their track) to enable him to form a table for them as he has for those that are more commonly known.

Should the reader ever acquire sufficient information regarding the general track of hurricanes or circular storms in the Bay of Bengal or elsewhere, he will be able to ascertain the courses to be steered, from the diagrams, and then, if he thinks fit, to arrange them in a tabular shape.

In doing this, it will only be necessary to project on the page to which the diagram is attached the course corresponding to the usual track of hurricanes in that quarter—on the left hand page, for hurricanes north of the equator ; on the right, for those south of the equator ; then turning the long arrow of the circular diagram in the direction of the track, proceed according to the rule given in page 5, for “ ascertaining the course to be steered *if using the diagram.*”



#### POSTSCRIPT.

Any person who witnesses a hurricane should collect and register all the facts that appear to him to be deserving of record, noting particularly, at short intervals, the direction of the wind, and the time at which it alters its direction, its comparative force, and the height of the mercurial column in the barometer. If at sea, he must, in addition, note the course and speed of the ship.

It must be remembered, that it was only by extensive researches among ships' log-books, that Colonel Reid was enabled to establish the great fact that the principal hurricanes had pursued the same track in the same latitude and longitude. And it is only by means of such records that we can hope, for the future, to arrive at any further information regarding this great phenomenon of nature.

All well-authenticated records of hurricanes will, therefore, be very acceptable to the Hydrographical Office, at the Admiralty, and might be sent, also, to one or more of the naval newspapers.

A. R.





